



Tularemia

What is tularemia?

Tularemia is an infectious disease caused by a bacterium, *Francisella tularensis*, which is found in numerous wild animals, especially rodents, rabbits, and hares. *F. tularensis* is highly infectious; a small number of bacteria (10-50 organisms) can cause disease.

How do people become infected with the tularemia bacteria?

Typically, persons become infected through the bites of arthropods (most commonly, ticks and deerflies) that have fed on an infected animal, by handling infected animal carcasses, by eating or drinking contaminated food or water, or by inhaling infected aerosols. Note that persons with tularemia have not been known to transmit the infection to others, so infected persons do not need to be isolated.

There is concern that tularemia bacteria might be used by terrorists, who would likely disseminate the organisms through the air in the form of an aerosol, resulting in cases of inhalational tularemia. Persons with inhalational tularemia generally experience severe respiratory illness, including life-threatening pneumonia and systemic infection, if they are not treated.

Does tularemia occur naturally in the United States?

Yes. It is a widespread disease of animals. Approximately 200 cases of tularemia in humans are reported annually in the United States, mostly in persons living in the south-central and western states (including Missouri). Nearly all cases occur in rural areas and are associated with the bites of infectious ticks and biting flies, or with the handling of infected rodents, rabbits, or hares.

What are the signs and symptoms of tularemia?

Depending on the route of exposure, infection with *F. tularensis* may result in skin ulcers, swollen and painful lymph glands, inflamed eyes, sore throat, oral ulcers, or pneumonia. If the bacteria is inhaled, symptoms can include the abrupt onset of fever, chills, headache, muscle aches, joint pain, dry cough, and progressive weakness. Persons with pneumonia can develop chest pain, difficulty breathing, bloody sputum, and respiratory failure, and 40% or more of persons with the lung and systemic forms of tularemia may die if they are not treated with appropriate antibiotics.

The time from initial infection until the appearance of symptoms is typically 3-5 days, with a range of 1-14 days.

How is tularemia diagnosed?

When tularemia is suspected based on the patient's history and physical examination, specimens such as blood or sputum will be collected and tested for evidence of tularemia infection (and other potential infections) in a medical laboratory.

Can tularemia be treated?

Yes, tularemia can be treated effectively with antibiotics. As with any infection, early diagnosis is important.

If a person is thought to have been exposed to the tularemia bacteria, what can be done?

If an individual is believed to have been very recently exposed to *F. tularensis*, treatment with antibiotics for 14 days may be recommended as a means of preventing disease.

Ready in 3 is an emergency-preparedness program for Missouri. The Missouri Department of Health and Senior Services sponsors the program. **Ready in 3** aims to help residents and communities prepare for many types of emergencies from tornadoes to terrorism. For more information, visit www.dhss.mo.gov.



Is there a vaccine available for tularemia?

A tularemia vaccine is currently under review by the Food and Drug Administration (FDA).

What should I do if cases of tularemia start to occur in my community?

Local and state public health officials will provide you with the information you will need.

Adapted from CDC. *Frequently Asked Questions (FAQ) About Tularemia*. July 2, 2003.